

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	0	((storing save saving memory storage store) with ((vector pattern) and data)) and (ECC EDC (error near3 (detect\$4 correct\$4))) and ((transpos\$6 near2 matrix) with (test with (pattern vector sequence))).clm. and "714"/\$.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/04 17:47
L2	0	((transpos\$6 near2 matrix) with (test with (pattern vector sequence))).clm. and "714"/\$.ccls.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/04 17:47
L3	0	((storing save saving memory storage store) with ((vector pattern) and data)) and (ECC EDC (error near3 (detect\$4 correct\$4))) and ((transpos\$6 near2 matrix) with (test with (pattern vector sequence)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/04 17:47
S1	49	((("5287363") or ("4939694") or ("5446741") or ("5574690") or ("5875195") or ("6070255") or ("4903268") or ("4924465") or ("4926426") or ("4980888") or ("5228046") or ("5233610") or ("5327548") or ("5357521") or ("5422890") or ("5467357") or ("5502732") or ("5533036") or ("5666371") or ("5682394") or ("5745508") or ("5745673") or ("5835704") or ("6216248") or ("6216248") or ("6237116") or ("6279128") or ("6374381") or ("6397357") or ("6938193") or ("6971051") or ("6988237") or ("20030131307") or ("20030182611") or ("20040008562") or ("20040184327") or ("20050044467") or ("20050086572") or ("20050149824") or ("20050160332") or ("20050182997") or ("20050229076") or ("20050240838") or ("20050246594") or ("20060072157") or ("20060156192") or ("5917836") or ("5956743") or ("6125468") or ("5469450") or ("").pn.))).PN.	US-PGPUB; USPAT	OR	OFF	2007/01/07 16:06

## EAST Search History

S2	2	"6295617".pn.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/01/07 16:21
S3	1878	(test tester testing tested) with (error near4 memory)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/01/07 17:07
S4	1350	(test tester testing tested) near6 (error near4 memory)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/01/07 16:28
S5	310	((test tester testing tested) near6 (error near4 memory)).ab.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 21:55
S6	6	S3 and (britt harris).xa.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/01/07 17:06
S7	276	((test tester testing tested) with (error near4 memory)).clm.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 21:54
S8	116069	(storing save saving memory storage store) with ((vector pattern) and data)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 21:58
S9	18688	((storing save saving memory storage store) with ((vector pattern) and data)) and (ECC EDC (error near3 (detect\$4 correct\$4)))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 22:00
S10	6	((storing save saving memory storage store) with ((vector pattern) and data)) and (ECC EDC (error near3 (detect\$4 correct\$4))) and (hamming adj matrix)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 22:10
S11	16	("20040008562" "20040184327" "444 8449" "4772033" "5195099" "5697651 " "6295617" "6988237").PN.	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 22:10

## EAST Search History

S12	4	S11 and hamming	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/03 22:11
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## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	43	("20040136462" "20060059446" "5564035" "5870599" "6058456" "6366978" "6578111" "6715040" "6782452" "6782453" "6920514" "6957304" "7039760" "20020116584" "20030110356" "20030145232" "20030154348" "20040073760" "20040153850" "20040215888" "20040215889" "20060153178" "20070079185" "6536022" "6637014" "7062731" "7100125" "7158920" "20020166101" "20030229869" "20030229873" "20050060675" "20050102594" "20050283668" "20060112359" "20060200786" "20060230374" "6782347" "6920402" "20020065643" "20050097498" "20050259692" "20060277512" ).pn.	US-PGPUB; USPAT	OR	ON	2007/06/09 22:02
S2	44421	worst adj case	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:02
S3	16	S1 and S2	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:17
S4	1900590	(transmit transmitting transmission transmitted) and (receive receiver receiving received)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:43
S5	25789	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:10
S6	20581	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst anj case) worstcase (worst-case))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:11
S7	2701	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst adj case) worstcase (worst-case))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:11

## EAST Search History

S8	621	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst adj case) worstcase (worst-case)) and eye	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 23:39
S9	0	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst adj case) worstcase (worst-case)) and eye and agressor and victim	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:12
S10	3	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst adj case) worstcase (worst-case)) and eye and victim	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:25
S11	2	"20050163207"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:25
S12	9	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst adj case) worstcase (worst-case)) and serial and victim	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:27
S13	69	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and channel and ((worst adj case) worstcase (worst-case)) and serial and victim	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:27
S14	7	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and channel and ((worst adj case) worstcase (worst-case)) and serial and victim and jitter	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:43
S15	368	((transmit transmitting transmission transmitted) and (receive receiver receiving received)) and (data adj eye) and jitter	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:44
S16	276	((transmit transmitting transmission transmitted) and (receive receiver receiving received)) and (data adj eye) and jitter and channel	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 22:45

## EAST Search History

S17	8	((transmit transmitting transmission transmitted) and (receive receiver receiving received)) same (data adj eye) same jitter same channel	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 23:06
S18	0	((((transmit transmitting transmission transmitted) and (receive receiver receiving received)) and (data adj eye) and jitter and channel).clm. and (714/707.ccls. 714/708.ccls. 714/798.ccls. 375/226.ccls. 375/355.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/09 23:08
S19	9	((((transmit transmitting transmission transmitted) and (receive receiver receiving received)) and jitter and channel).clm. and (714/707.ccls. 714/708.ccls. 714/798.ccls. 375/226.ccls. 375/355.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 07:54
S20	0	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst adj case) worstcase (worst-case)) and eye	EPO; JPO; IBM_TDB	OR	ON	2007/06/09 23:39
S21	2	(transmit transmitting transmission transmitted) and (receive receiver receiving received) and jitter and ((worst adj case) worstcase (worst-case))	EPO; JPO; IBM_TDB	OR	ON	2007/06/09 23:40
S22	6	(US-20020027886-\$ or US-20050111536-\$ or US-20050163207-\$).did. or (US-7218670-\$ or US-6920402-\$).did. or (NN8804328).tban.	US-PGPUB; USPAT; IBM_TDB	OR	ON	2007/06/10 07:51
S23	2	"20020027886"	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 07:51
S24	9	((((transmit transmitting transmission transmitted) and (receive receiver receiving received)) and jitter and channel).clm. and (714/707.ccls. 714/708.ccls. 714/798.ccls. 375/226.ccls. 375/355.ccls.)	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/06/10 07:54
S25	5076	transpos\$6 near2 matrix	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/04 12:12

## EAST Search History

S26	2	(transpos\$6 near2 matrix) with (test near2 (pattern vector sequence))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/04 12:18
S27	6	(transpos\$6 near2 matrix) with (test with (pattern vector sequence))	US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/08/04 12:18

## Patent FullText Files

File 348:EUROPEAN PATENTS 1978-2007/ 200728 (c) 2007 European Patent Office

File 349:PCT FULLTEXT 1979-2007/UB=20070712UT=20070705 (c) 2007 WIPO/Thomson

Set	Items	Description
S1	3954	HAMMING
S2	682629	(TRANSPOS??? OR TRANSPOSITION? ? OR INVERT? OR INVERS? OR - REVERT? OR REVERS? OR RETROVER?)
S3	432	S2 (5N) (TESTPATTERN? OR TP OR TPS OR TESTVECTOR? OR TESTB- YTE? ? OR TESTSTRING? OR TESTDATA OR TESTSIGNAL?)
S4	555	S2 (5N) ((TEST OR TESTING) (1W) (PATTERN? ? OR VECTOR? ? - OR BYTE? ? OR SEQUENCE? ? OR SERIES OR STRING? ? OR DATA OR I- NFORMATION OR SIGNAL? ? OR INPUT? ? OR SEGMENT? ? OR WAVEFORM? OR WAVE () FORM? ?))
S5	14	S1 AND S3:S4
S6	10	S5 NOT PY>2004
S7	10	IDPAT (sorted in duplicate/non-duplicate order)
S8	10	IDPAT (primary/non-duplicate records only)



**NPL FullText Files**

Set	Items	Description
S1	2905	HAMMING
S2	2056231	(TRANSPOS??? OR TRANSPOSITION? ? OR INVERT? OR INVERS? OR - REVERT? OR REVERS? OR RETROVER?)
S3	93	S2 (5N) (TESTPATTERN? OR TP OR TPS OR TESTVECTOR? OR TESTB-YTE? ? OR TESTSTRING? OR TESTDATA OR TESTSIGNAL?)
S4	154	S2 (5N) ((TEST OR TESTING) (1W) (PATTERN? ? OR VECTOR? ? - OR BYTE? ? OR SEQUENCE? ? OR SERIES OR STRING? ? OR DATA OR I-NFORMATION OR SIGNAL? ? OR INPUT? ? OR SEGMENT? ? OR WAVEFORM? OR WAVE () FORM? ?))
S5	0	S1 AND S3:S4
S6	6954555	TEST OR TESTING
S7	10	(S1 AND S2) (30N) S6
S8	26	(S1 AND S2) (50N) S6
S9	20	S8 NOT PY>2004
S10	17	RD (unique items)

10/3,K/1 (Item 1 from file: 275)  
 DIALOG(R)File 275:Gale Group Computer DB(TM)  
 (c) 2007 The Gale Group. All rts. reserv.

02437505 SUPPLIER NUMBER: 65637529 (USE FORMAT 7 OR 9 FOR FULL TEXT)  
 Resolving path to fading channels.(Technology Information)  
 Stuber, Gordon L.  
 Electronic Engineering Times, 104  
 Oct 2, 2000  
 ISSN: 0192-1541 LANGUAGE: English RECORD TYPE: Fulltext  
 WORD COUNT: 1444 LINE COUNT: 00120

... of code, instead of the Euclidean distance of the code at high received-bit energy-to-noise ratios. Therefore, with BICM, code with larger minimum **Hamming** distance should achieve better BER performance.

Because BICM has larger minimum **Hamming** distance than TCM, Turbo-BICM should perform better than Turbo-TCM on fading channels. However, TCM is optimal for AWGN channels and, likewise, Turbo-TCM should outperform Turbo-BICM on AWGN channels.

**Turbo testing**

As an example, consider a wireless channel with a COST207 typical urban (TU) power delay profile with Rayleigh faded rays having a classical Doppler power...

10/3,K/2 (Item 2 from file: 275)  
 DIALOG(R)File 275:Gale Group Computer DB(TM)  
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**NPL Abstract Files**

- File 2:INSPEC 1898-2007/Jul W2  
(c) 2007 Institution of Electrical Engineers
- File 6:NTIS 1964-2007/Jul W4  
(c) 2007 NTIS, Intl Cpyrght All Rights Res
- File 8:Ei Compendex(R) 1884-2007/Jul W2  
(c) 2007 Elsevier Eng. Info. Inc.
- File 34:SciSearch(R) Cited Ref Sci 1990-2007/Jul W4  
(c) 2007 The Thomson Corp
- File 35:Dissertation Abs Online 1861-2007/Jun  
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- File 56:Computer and Information Systems Abstracts 1966-2007/Jul  
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- File 60:ANTE: Abstracts in New Tech & Engineer 1966-2007/Jul  
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- File 62:SPIN(R) 1975-2007/Jul W1  
(c) 2007 American Institute of Physics
- File 65:Inside Conferences 1993-2007/Jul 19  
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- File 95:TEME-Technology & Management 1989-2007/Jul W3  
(c) 2007 FIZ TECHNIK
- File 99:Wilson Appl. Sci & Tech Abs 1983-2007/Jun  
(c) 2007 The HW Wilson Co.
- File 144:Pascal 1973-2007/Jul W2  
(c) 2007 INIST/CNRS
- File 239:Mathsci 1940-2007/Aug  
(c) 2007 American Mathematical Society
- File 256:TecInfoSource 82-2007/Aug  
(c) 2007 Info.Sources Inc
- File 434:SciSearch(R) Cited Ref Sci 1974-1989/Dec  
(c) 2006 The Thomson Corp
- File 266:FEDRIP 2007/Jun  
Comp & dist by NTIS, Intl Copyright All Rights Res
- File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13  
(c) 2002 The Gale Group

Set	Items	Description
S1	14450	HAMMING
S2	2727869	(TRANSPS??? OR TRANSPOSITION? ? OR INVERT? OR INVERS? OR - REVERT? OR REVERS? OR RETROVER?)
S3	468	S2 (5N) ((TEST OR TESTING) (1W) (PATTERN? ? OR VECTOR? ? - OR BYTE? ? OR SEQUENCE? ? OR SERIES OR STRING? ? OR DATA OR I- NFORMATION OR SIGNAL? ? OR INPUT? ? OR SEGMENT? ? OR WAVEFORM? OR WAVE () FORM? ?))
S4	325	S2 (5N) (TESTPATTERN? OR TP OR TPS OR TESTVECTOR? OR TESTBYTE? ? OR TESTSTRING? OR TESTDATA OR TESTSIGNAL?)

S5 0 S1 AND S3:S4  
S6 4483703 TEST OR TESTING  
35 S1 AND S2 AND S6  
S8 31 S7 NOT PY>2004  
S9 18 RD (unique items)

9/5/1 (Item 1 from file: 2)  
DIALOG(R)File 2:INSPEC  
(c) 2007 Institution of Electrical Engineers. All rts. reserv.

08910527 INSPEC Abstract Number: B2004-05-6120B-007

Title: CMOS analog MAP decoder for (8,4) **Hamming** code

Author(s): Winstead, C.; Jie Dai; Shuhuan Yu; Myers, C.; Harrison, R.R.; Schlegel, C.

Author Affiliation: Dept. of Electr. & Comput. Eng., Univ. of Alberta, Edmonton, Alta., Canada

Journal: IEEE Journal of Solid-State Circuits vol.39, no.1 p.122-31

Publisher: IEEE,

Publication Date: Jan. 2004 Country of Publication: USA

CODEN: IJSCBC ISSN: 0018-9200

SICI: 0018-9200(200401)39:1L:122:CAD(;1-Q

Material Identity Number: I022-2004-002

U.S. Copyright Clearance Center Code: 0018-9200/04/\$20.00

DOI: 10.1109/JSSC.2003.820845

Language: English Document Type: Journal Paper (JP)

Treatment: Practical (P)

Abstract: Design and **test** results for a fully integrated translinear tail-biting MAP error-control decoder are presented. Decoder designs have been reported for various applications which make use of analog computation, mostly for Viterbi-style decoders. MAP decoders are more complex, and are necessary components of powerful iterative decoding systems such as turbo codes. Analog circuits may require less area and power than digital implementations in high-speed iterative applications. Our (8, 4) **Hamming** decoder, implemented in an AMI 0.5-  $\mu$ m process, is the first functioning CMOS analog MAP decoder. While designed to operate in subthreshold, the decoder also functions above threshold with a small performance penalty. The chip has been tested at bit rates up to 2 Mb/s, and simulations indicate a top speed of about 10 Mb/s in strong **inversion**. The decoder circuit size is 0.82 mm<sup>2</sup>, and typical power consumption is 1 mW at 1 Mb/s. (15 Refs)

Subfile: B

Descriptors: CMOS analogue integrated circuits; **Hamming** codes; high-speed integrated circuits; iterative decoding; turbo codes; Viterbi decoding

Identifiers: CMOS analog MAP decoder; (8,4) **Hamming** code; translinear tail-biting MAP error-control decoder; decoder designs; analog computation; Viterbi-style decoders; iterative decoding systems; turbo codes; analog circuits; high speed iterative applications; AMI 0.5  $\mu$ m process; CMOS analog MAP decoders; strong **inversion**; decoder circuit;

**Patent Abstract Files**

File 347:JAPIO Dec 1976-2007/Dec(Updated 070702)(c) 2007 JPO & JAPIO

File 350:Derwent WPIX 1963-2007/UD=200745(c) 2007 The Thomson Corporation

Set	Items	Description
S1	937	HAMMING
S2	852712	(TRANSPOS??? OR TRANSPOSITION? ? OR INVERT? OR INVERS? OR - REVERT? OR REVERS? OR RETROVER?)
S3	127	S2 (5N) (TESTPATTERN? OR TP OR TPS OR TESTVECTOR? OR TESTB-YTE? ? OR TESTSTRING? OR TESTDATA OR TESTSIGNAL?)
S4	491	S2 (5N) ((TEST OR TESTING) (1W) (PATTERN? ? OR VECTOR? ? - OR BYTE? ? OR SEQUENCE? ? OR SERIES OR STRING? ? OR DATA OR I-NFORMATION OR SIGNAL? ? OR INPUT? ? OR SEGMENT? ? OR WAVEFORM? OR WAVE () FORM? ?))
S5	0	S1 AND S3:S4
S6	2813	S2 (5N) (TEST OR TESTING)
S7	1	S1 AND S6

7/5/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX

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0002961715

WPI ACC NO: 1984-044102/198408

Data memory with bit error correction - uses Hamming code to provide identification and correction of errors in RAM

Patent Assignee: INT COMPUTERS LTD (INCM)

Inventor: RATCLIFFE M J

Patent Family (7 patents, 5 countries)

Patent Number	Kind	Date	Application Number	Kind	Date	Update
DE 3329022	A	19840216	DE 3329022	A	19830811	198408 B
GB 2125590	A	19840307	GB 198223439	A	19820814	198410 E
			GB 198321372	A	19830809	
AU 198317962	A	19840216				198414 E
ZA 198305740	A	19840228				198427 E
GB 2125590	B	19851204	GB 198223439	A	19820814	198549 E
			GB 198321372	A	19830809	
US 4562576	A	19851231	US 1983518946	A	19830801	198604 E
DE 3329022	C	19910814	DE 3329022	A	19830811	199133 E

Priority Applications (no., kind, date): GB 198223439 A 19820814; GB 198321372 A 19830809

# INTERFERENCE SEARCH

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L2	0	((transpos\$6 near2 matrix) with (test with (pattern vector sequence))).clm. and "714"/\$.ccls.	US-PGPUB	OR	ON	2007/08/04 17:01